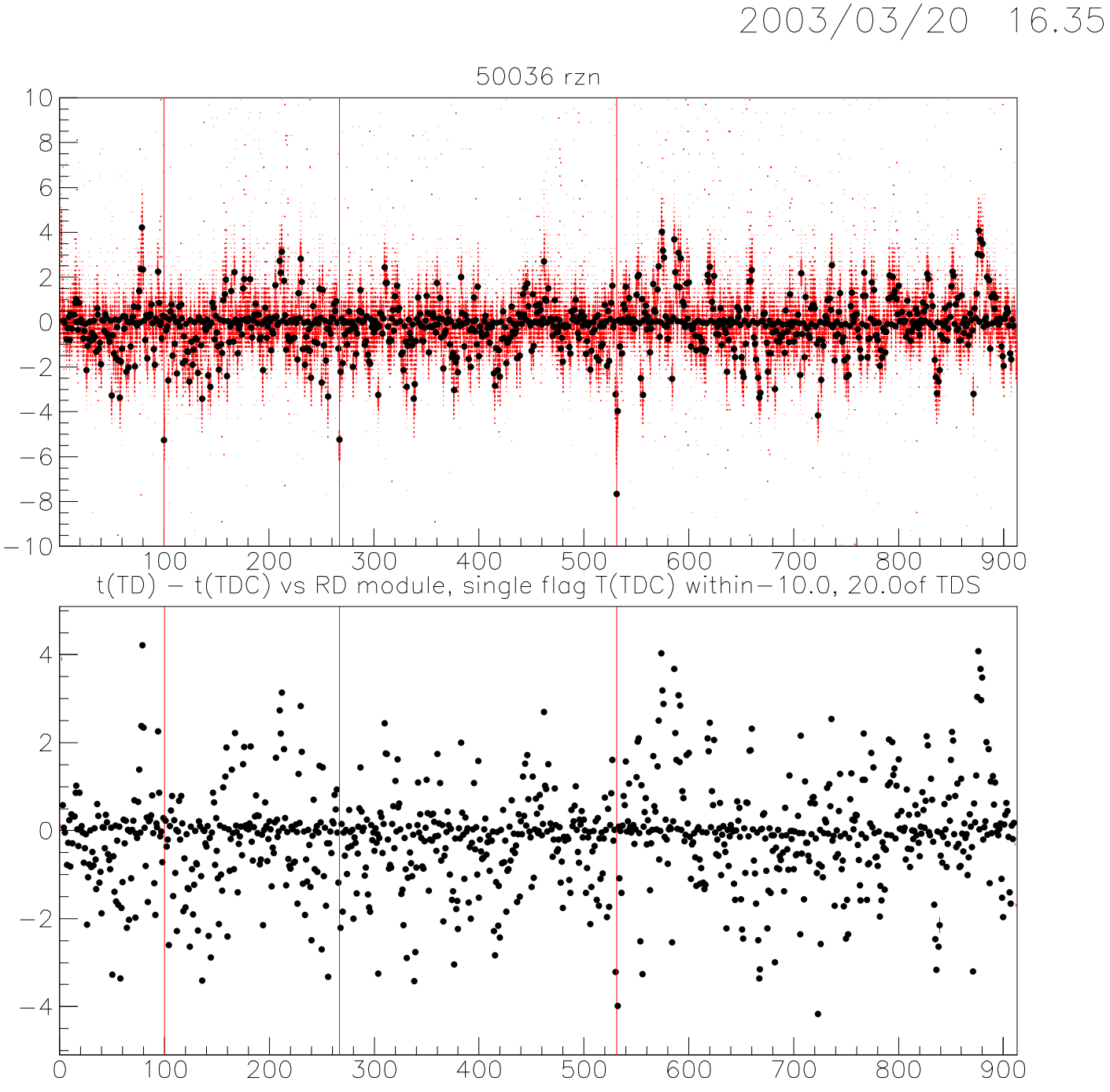
`TDUNP` **bug and fix** (D.Jaffe 20mar2003)

- Errors in `TDUNP`, `ANAL_FLAGS` and `UPTDMOD` affect the "calibrated" TD times.
- The error: In `TDUNP`, the TD time for the current hit, `edgetd_h`, is corrected by `rdtdt0(end,layer,z)` where `z` is the first sector of the 4 multiplexed counters that are input to a single TD.
- Result: Wrong t0 applied for 3 of 4 RD counters in a hextant in "calibrated" TD data.
- Following pages show the problem in terms of t(TD)-t(TDC) before and after the fix.
- **The good news:** RD TD t0 calibration is OK because it used "raw" TD data.
- **The bad news:** "calibrated" TD times for 3/4 RD counters in a hextant is wrong in current PASS1 output.

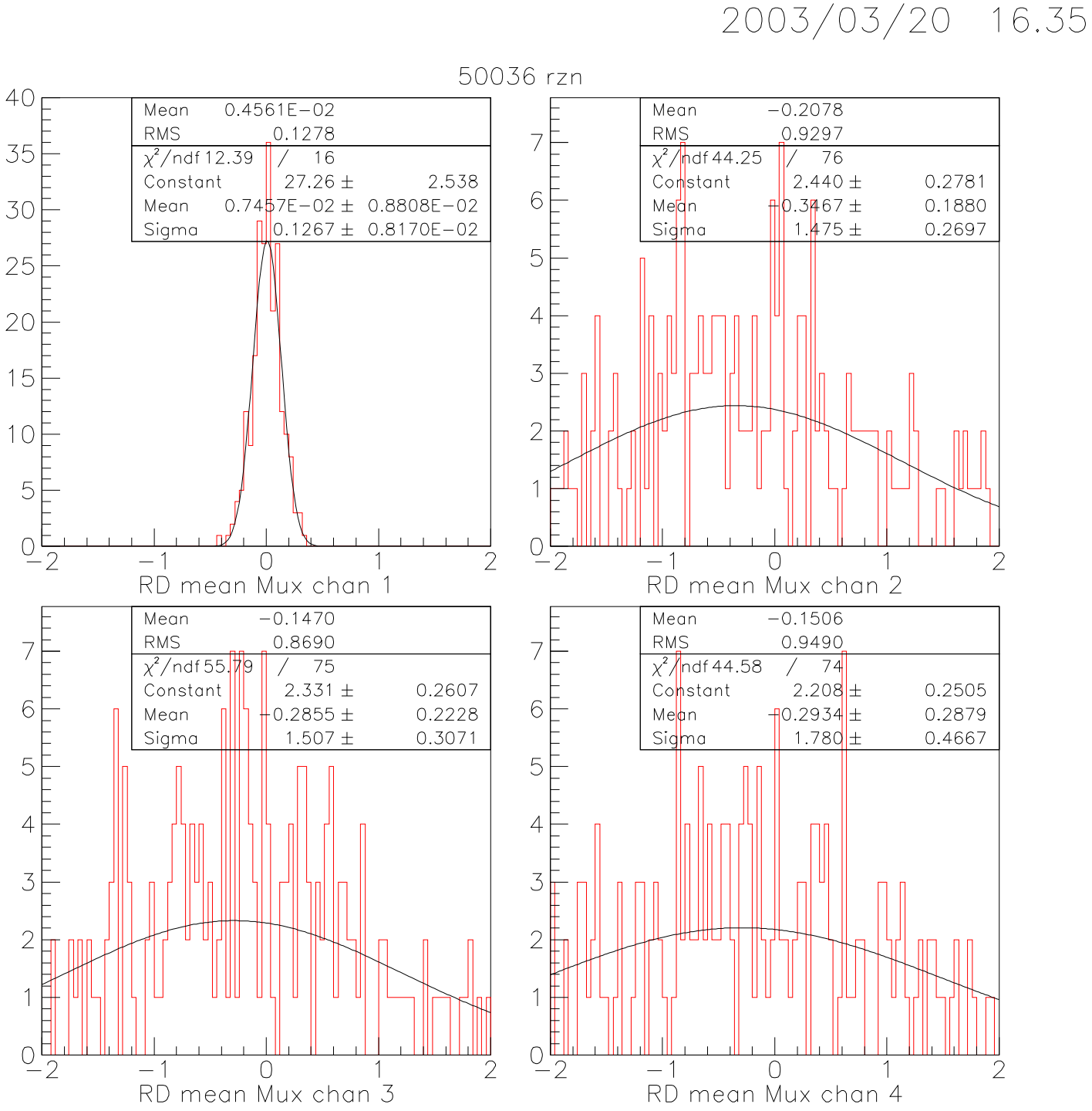
Old calibration, old code

Upper: t(TD)-t(TDC) vs RD module, with fitted mean superimposed
Lower: Fitted mean of t(TD)-t(TDC) vs RD module (note scale change)
Units are ns



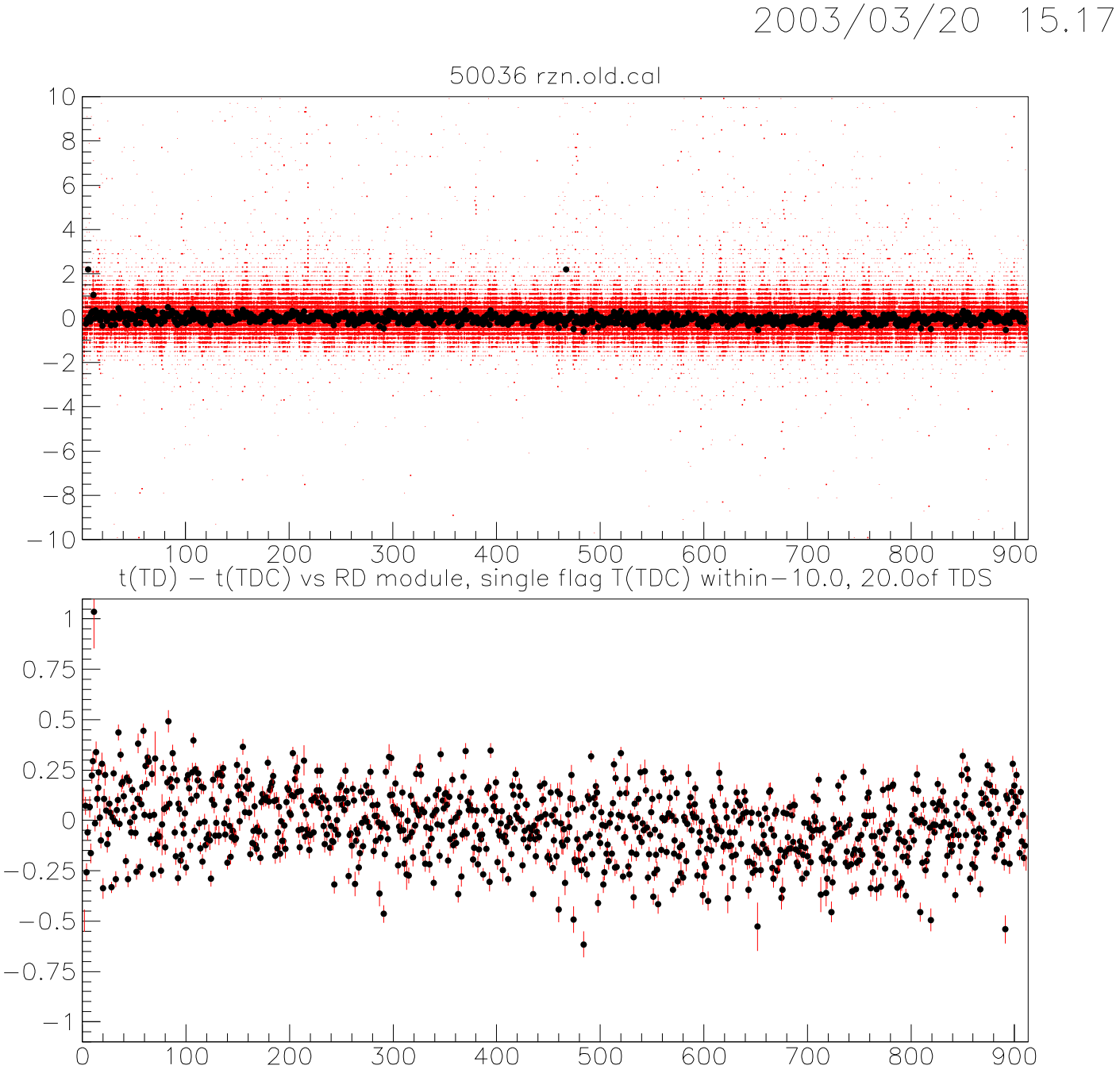
Old calibration, old code

Distribution of fitted means of t(TD)-t(TDC) vs multiplex channel
Units are ns



Old calibration, new code

Upper: t(TD)-t(TDC) vs RD module, with fitted mean superimposed
Lower: Fitted mean of t(TD)-t(TDC) vs RD module (note scale change)
Units are ns



Old calibration, new code

Distribution of fitted means of t(TD)-t(TDC) vs multiplex channel
Units are ns